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Jeffrey H. Bailey

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AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 5, line 10 with the following amended paragraph:

A certain desired embodiment finds the aerial work apparatus also having a platform support member attached to the platform as well as a vertical holding support column attached at the distal end of the boom. The vertical holding support column holds the load-sensing mechanism in such a position that the platform support member is fully supported by the load-sensing mechanism. In this manner, the mechanism is able to measure detect the platform load by the forces placed upon it by the platform support member.

Please replace the paragraph at page 5, line 24 with the following amended paragraph:

In another desired form of this embodiment, the aerial work apparatus is further comprised of at least two sleeve bearings attached to the platform that has a substantially frictionless engagement with the holding support column. This insures that the only forces being placed on the vertical holding support column by the platform are through the platform support member as it rests upon the load-sensing mechanism. It is most preferred that the sleeve bearings pivotally engage the holding support column.

Please replace the paragraph at page 5, line 30 with the following amended paragraph:

In another aspect of this invention, it is directed to an improvement of an aerial work apparatus of the type having a boom mounted to a base and a platform attached to the distal end of the boom. The improvement is comprised of a load-sensing mechanism at the platform for measuring the platform load, a platform support member attached to the platform, and a vertical holding support column attached at the distal end of the boom and holding the load-sensing

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mechanism in position so that the load-sensing mechanism is substantially the only support for the platform support member and therefore is able to fully measure sense the platform load.

Please replace the paragraph at page 6, line 11 with the following amended paragraph:

A most desired embodiment of this aspect of the invention is where the aerial work apparatus further includes at least two sleeve bearings attached to the platform and having an engagement to the holding support column that is substantially frictionless. Here it is highly desirable that the apparatus have the sleeve bearings pivotally engaged to the holding support column.

Please replace the paragraph at page 6, line 22 with the following amended paragraph:

FIG. 3 is an enlarged fragmentary sectional view of load-sensing mechanism and upper sleeve bearing within holding support column taken along plane parallel to view in FIG.2.

Please replace the paragraph at page 7, line 19 with the following amended paragraph:

As shown in FIG. 2, boom 14 is provided at its distal end with a boom tip 20, a slave-leveling cylinder 22, and a vertical holding support column 24. Boom tip 20 is pivotally attached by means of tip bracket 21 to holding support column 24 at a point along the upper portion of holding support column 24. Slave-leveling cylinder 22 is pivotally attached at one end to holding support column 24 at a point along the lower portion of holding support column 24 by means of slave-cylinder bracket 23. Slave-leveling cylinder 22 is secured at its other end to boom tip 20. Slave-leveling cylinder 22 functions hydraulically in a manner well known in the art to keep holding support column 24 substantially vertical.

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Please replace the paragraph at page 8, line 1 with the following amended paragraph:

A platform support member 32 is welded to the top of vertical strut 30. Upper and lower sleeve bearings 34, 36 are rigidly connected to vertical strut 30 at points below platform support member 32. Platform 16 and, in particular, work basket 26 is capable of pivoting in a substantially horizontal plane about holding support column 24 by means of hydraulic platform rotational cylinder 39.

Please replace the paragraph at page 8, line 6 with the following amended paragraph:

Platform 16 is mounted onto boom 14 by resting platform support member 32 upon support bushing 38 at the top of holding support column 24. Platform 16 is attached in a substantially frictionless manner to holding support column 24 by sleeve bearings 34, 36. Vertical frictional loading at sleeve bearings 34, 36 is preferably kept negligible by use of a sleeve bushing 40 on its interior surface impregnated with polytetrafluoroethylene (commonly known as Teflon®) and by plating holding support column 24 with chrome in those areas in contact with sleeve bushings 40.

Please replace the paragraph at page 8, line 13 with the following amended paragraph:

Upper sleeve bearing 34 attaches to holding support column 24 at a point substantially adjacent to the top of holding support column 24 and above boom tip 20. Lower sleeve bearing 36 attaches to holding support column 24 at a point substantially adjacent to the bottom of holding support column 24 and below slave-leveling cylinder 22.

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Please replace the paragraph at page 8, line 17 with the following amended paragraph:

As illustrated in FIG. 3, holding support column 24 holds load-sensing mechanism 42. Load-sensing mechanism 42 includes support bushing 38 and hydraulic load cell 41. Load cell 41 comprises load piston 44, piston housing 46, and pressure transducer 48. Support bushing 38 is preferably cylindrical and made from nylon. Support bushing 38 has a co-axial aperture on its bottom surface that frictionally receives a top portion of load piston 44. Piston housing 46 is sized to fit within the hollow interior of holding support column 24. Housing flange 47 runs circumferentially along the upper edge of piston housing 46. Flange 47 rests upon the upper edge 49 of holding support column 24 to further secure piston housing 46 to holding support column 24.

Please replace the paragraph at page 8, line 26 with the following amended paragraph:

Piston housing 46 has a concentric cylindrical housing chamber 50 sized to tolerance to receive load piston 44. Wiper seal 51 is positioned circumferentially along the surface of housing chamber 50 adjacent to its upper opening to seal out debris from entering piston housing 46. Oil seal 53 is positioned circumferentially around the surface of housing chamber 50 below wiper seal 51. Housing port 52 runs through piston housing 46 with an upper end opening into the bottom of housing chamber 50 and with a lower end opening into the interior of holding support column 24. Housing port 52 is threaded to allow transducer 48 to be screwed into position beneath piston housing 46.

Please replace the paragraph at page 9, line 8 with the following amended paragraph:

When load-sensing mechanism 42 is in operation, the pressure of oil 55 is directly proportionate to the force placed upon it by load piston 44. The weight of platform 16 and thereby the weight of any load carried by work basket 26 is applied to load piston 44 in a

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substantially vertical fashion by means of platform support member 32 being solely supported by  
load-sensing mechanism 42 support column 24 at support bushing 38.

Please replace the paragraph at page 15, line 2 with the following amended paragraph:

An aerial work apparatus having a boom mounted to a base, a platform attached to the distal end of the boom, a boom mechanism for positioning the platform, a boom control module mounted with respect to the platform, a vertical load-sensing mechanism mounted at the platform for measuring the platform load and generating a load signal based on that measurement, and a controller operationally attached to the boom mechanism and boom control module. The controller receives the load signal and at least one position signal relating to the position of the platform and generates at least one control signal based thereon. The boom mechanism is controlled by the boom control module through the controller. Preferably, the load-sensing mechanism is held in position by a vertical holding support column attached at the distal end of the boom so that the mechanism fully supports a platform support member attached to the platform.